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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,126	01/15/2009	Sergei Evgenjevich Bankov	678-2558 PCT US	7508

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EXAMINER	
KARACSONY, ROBERT	
ART UNIT	PAPER NUMBER
2821	

MAIL DATE	DELIVERY MODE
12/02/2011	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/580,126	BANKOV ET AL.	
	Examiner	Art Unit	
	ROBERT KARACSONY	2821	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *05 October 2011*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.

4)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5)☒ Claim(s) *1-7* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *1-7* is/are rejected.

8)☐ Claim(s) _____ is/are objected to.

9)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10)☐ The specification is objected to by the Examiner.

11)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

12)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The following Office Action is in response to the Amendments received October 05, 2011. Claims 1-7 are currently pending.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over *Milroy* (US 5,483,248, hereinafter *Milroy*) in view of *Teshirogi et al.* (WO 03/044896, hereinafter *Teshirogi*)

US Publication No. 2004/0090290 will be referred to as an English translation of WO 03/044896 for the rejection outlined below.

Claim 1: *Milroy* teaches a planar antenna comprising: a planar metal-plated, at least on one side, dielectric waveguide (10, fig. 1), to the side walls of which two metal waveguides (49a and 49b, fig. 25) are adjoining that are connected with the planar waveguide, and radiating elements (15, fig. 1) having two symmetry planes (two orthogonal planes of polarization, see col. 11, lines 35-39) are placed in nodes of a rhombic mesh (square mesh, fig. 1e, see also col. 4, lines 57-59) on a surface (13, fig. 1) of the planar waveguide.

Milroy fails to teach the two metal waveguides connected with the planar waveguide via a periodical array of slots, wherein an array period of said periodical array of slots comprises two

slots shifted or inclined with respect to each other. However, *Teshirogi* teaches a suitable waveguide feed structure to feed a parallel plate waveguide (fig. 10 and fig. 17) comprising an array of slots shifted with respect to each other in order to optimize the attenuation and phase of the electromagnetic waves propagating inside (paragraph [0007-0008]). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the slotted, shifted waveguide of *Teshirogi* as the feed waveguide of *Milroy* in order to have optimized the attenuation and phase of the electromagnetic wave propagating inside.

Claim 2: *Milroy* teaches the planar waveguide has a form of a rhomb (fig. 1e, see also col. 4, lines 57-59).

Claim 3: The modified invention of *Milroy* teaches the two metal waveguides have rectangular cross-section (fig. 10 of *Teshirogi*).

Claim 4: The modified invention of *Milroy* teaches the two metal waveguides are in contact with wide sides of the planar waveguide (Since the term "wide" is a relative term, the Examiner interprets any side as being a "wide side." Therefore, fig. 5 of *Milroy* and fig. 10 of *Teshirogi* teach the two metal waveguides are in contact with "wide" sides of the planar waveguide).

Claim 5: The modified invention of *Milroy* teaches the two metal waveguides are in contact with narrow sides of the planar waveguide (fig. 5 of *Milroy*, see also fig. 10 of *Teshirogi*).

Claim 6: *Milroy* teaches the planar waveguide is metal-plated on two sides (fig. 1) and the radiating elements are implemented as metallizations having a square or round form (fig. 1e, see also col. 4, lines 57-59).

Claim 7: *Milroy* teaches the planar waveguide is metal-plated on one side (fig. 1), and the radiating elements are implemented as metallizations having a square or round form (fig. 1e, see also col. 4, lines 57-59).

Response to Arguments

Applicant's arguments filed October 05, 2011 have been fully considered but they are not persuasive.

Regarding the arguments on page 3, paragraph 2 of the Remarks, the Examiner respectfully disagrees with Applicant's. Particularly, Applicant's argue that "Milroy, which the Examiner cites in regards to the recitation of the dielectric waveguide including radiating elements having two symmetry planes are placed in nodes of a rhombic mesh on a surface of the planar waveguide, discloses arranging the radiating elements of the planar dielectric waveguide in a square shape. Since the radiating elements of Milroy are arranged in square form, the propagation directions of beams excited by two different metal waveguides will not be substantially orthogonal and therefore Milroy fails to disclose or suggest radiating elements having two symmetry planes, as recited in Claim 1."

In response, the Examiner submits that the term rhombic means a quadrilateral having all sides of equal length. Therefore, since Milroy teaches a square form, and squares are quadrilaterals having equal lengths, the Examiner interprets it as having a rhombic form.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ROBERT KARACSONY whose telephone number is (571)270-1268. The examiner can normally be reached on M-F 7:30 am - 5:00 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jacob Y. Choi can be reached on 571-272-2367. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/R. K./
Examiner, Art Unit 2821

/JACOB Y CHOI/
Supervisory Patent Examiner, Art Unit 2821